COULD AN AZURE SQL DATABASE BE USED AS A CLOUD WAREHOUSE?

DATA GUIDE

WHAT IS THE DIFFERENCE BETWEEN AZURE SQL DATABASE AND AZURE SYNAPSE ANALYTICS?

Comparing the Azure SQL Database with Azure Synapse Analytics (f.k.a. Azure SQL Data Warehouse), it comes down to a distinction between Online Transaction Processing (OLTP) and Online Analytical Processing (OLAP)
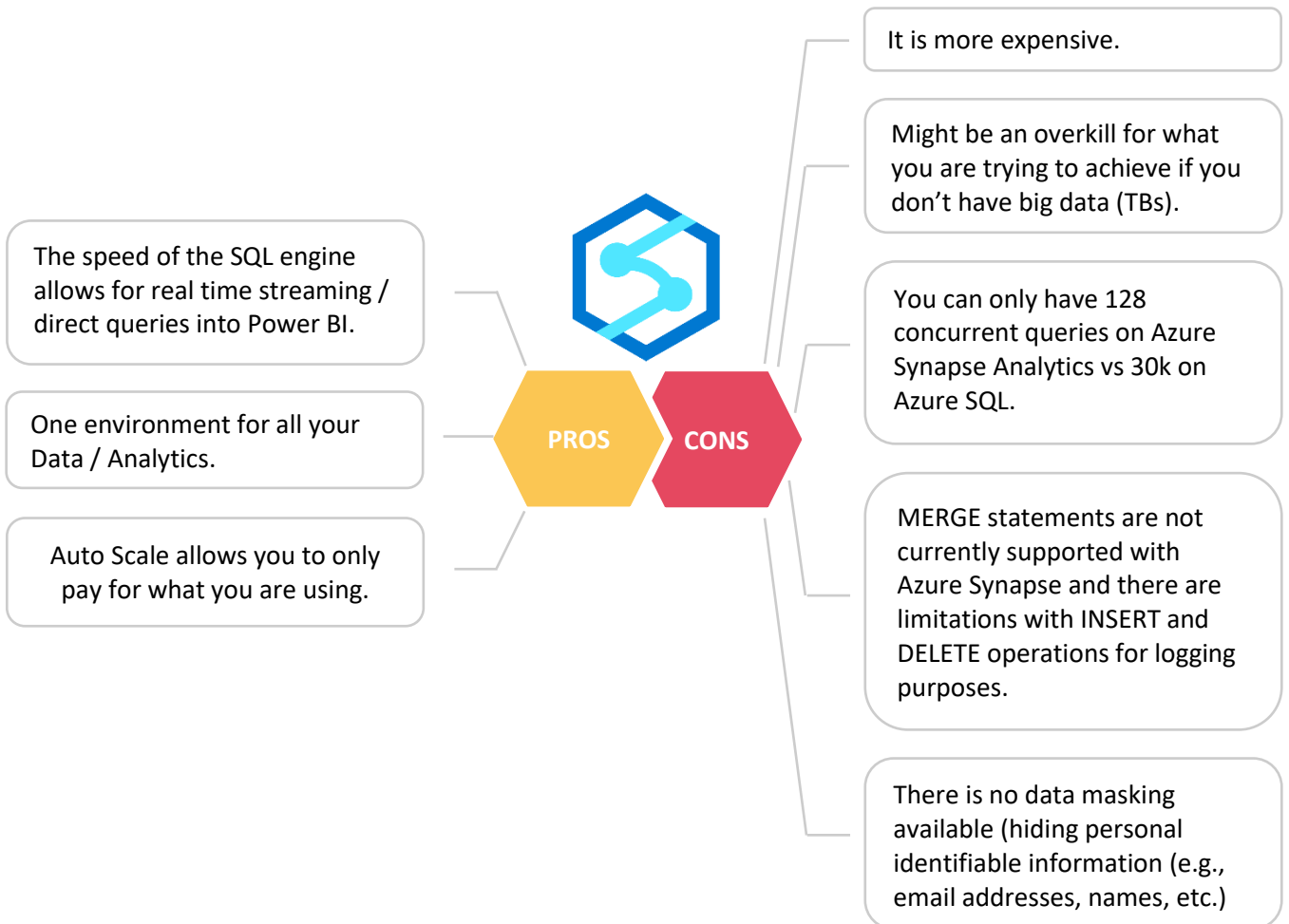
- OLTP = Azure SQL Database / Azure SQL Managed Instance – best at storing/querying data;
- OLAP = Azure Synapse Analytics (f.k.a. Azure SQL Data Warehouse) / Dedicated SQL Pool - tailored to big data (TBs) due to its indexing and parallelisation.

If your organization's use case is for a solution to store data that you are going to import on a regular basis and then perform analytic functions, then your requirements would fit with OLAP.

But in case you need a solution that serves as a backend on a web application, where you will be doing a lot of CRUD (Create, Read, Update and Delete) operations, then your requirements are for a typical SQL Server database or OLTP.

OBJECTIVE

AZURE SYNAPSE ANALYTICS
PROS AND CONS

PROS

The speed of the SQL engine allows for real time streaming / direct queries into Power BI.

One environment for all your Data / Analytics.

Auto Scale allows you to only pay for what you are using.

CONS

It is more expensive.

Might be an overkill for what you are trying to achieve if you don't have big data (TBs).

You can only have 128 concurrent queries on Azure Synapse Analytics vs 30k on Azure SQL.

MERGE statements are not currently supported with Azure Synapse and there are limitations with INSERT and DELETE operations for logging purposes.

There is no data masking available (hiding personal identifiable information (e.g., email addresses, names, etc.)
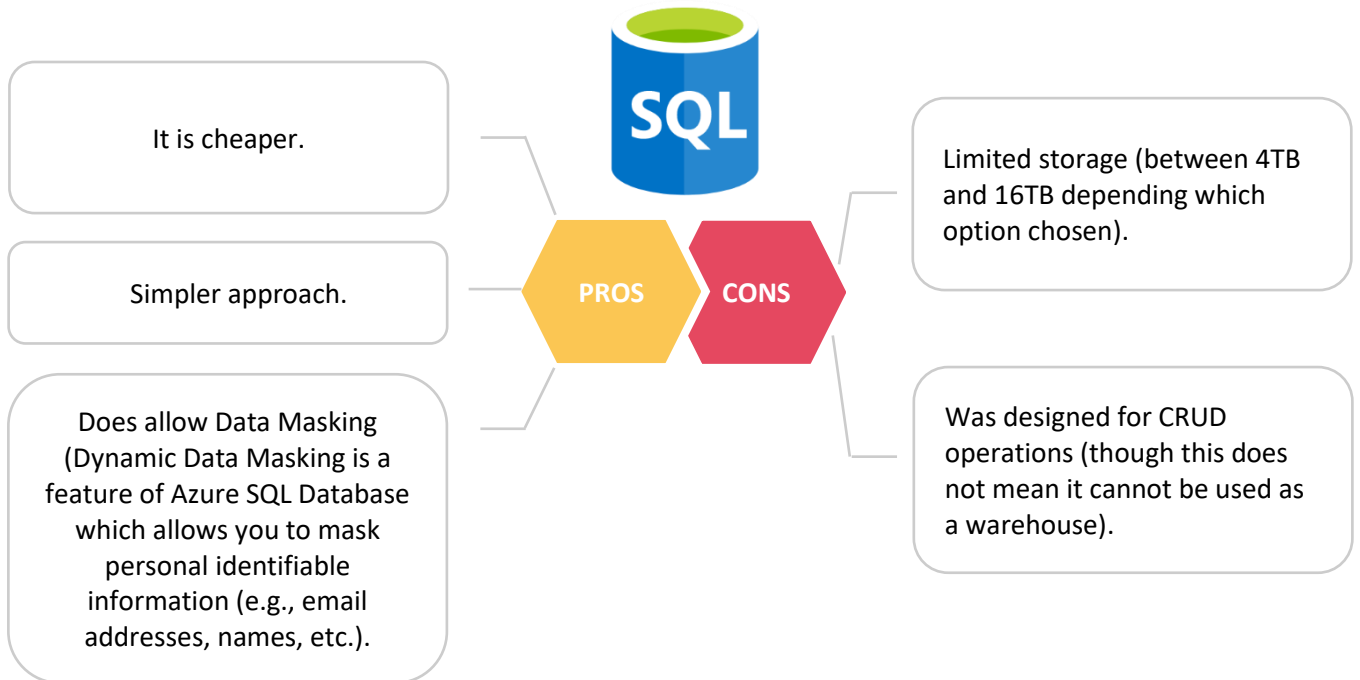
However, you can choose to use Azure SQL database/ Azure SQL Managed Instance (OLTP) solution, that would be used not as a typical SQL Server backend but as a warehouse solution for reporting.

OBJECTIVE

AZURE SQL DATABASE AS A WAREHOUSE

PROS AND CONS

It is cheaper.

Simpler approach.

Does allow Data Masking (Dynamic Data Masking is a feature of Azure SQL Database which allows you to mask personal identifiable information (e.g., email addresses, names, etc.).

PROS

CONS

Limited storage (between 4TB and 16TB depending which option chosen).

Was designed for CRUD operations (though this does not mean it cannot be used as a warehouse).

OBJECTIVE

READY TO MIGRATE YOUR RAPIDLY GROWING DATA TO AZURE AND FUTURE-PROOF YOUR REPORTING?

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